

Att. Dkt. NOKIA.4019US

REMARKS

Claims 43 and 45-84 are pending in this application. Claims have been amended by this Amendment.

The Office Action dated July 18, 2006 rejects claims 43 and 45-84 under 35 USC 103(a) as being rendered obvious by a combination of US 6,084,865 ("Dent") and US 5,517,504 ("Tran"). Applicants respectfully traverse the rejection on the grounds that it fails to establish a *prima facie* case that the applied references suggest each and every one of the combination of features recited in the rejected claims.

For example, neither one of the applied references suggests a half rate packet switched data channel, as claimed in all of the independent claims of this application. Independent claims 43 and 75 define a data channel for circuit switched communications that is a half rate data channel and a data channel for packet switched communications that is a half rate data channel. This combination of half rate channels for both circuit switched and packet switched communications is advantageous because it maximizes the utilization of available transmission bandwidth by increasing the flexibility with which connections can be allocated to data channels and enables the available transmission bandwidth to be used to greater capacity. Using half rate channels for only circuit switched communications often does not give the expected efficiency gains because each circuit switched connection that is allocated to one half of a full rate channel (a half rate channel) needs to be paired with another circuit switched connection allocated to the other half of that channel. The claims address this problem by implementing a combination of full and part rate channels for both circuit switched and packet switched communications. This is a particularly advantageous arrangement because for many packet switched connections a half rate data channel may provide a sufficiently high data rate. Furthermore, for packet switched connections allocated to half rate data channels there is no requirement for the originating and terminating parties to support a half rate code. Therefore, a communication system for maximizing utilization of the available transmission bandwidth may be advantageously realized by the combinations of full and part rate data channels for circuit switched and packet switched communications that are recited in claims 43 and 75.

The Office Action alleges that the Tran reference would motivate one to increase network robustness and efficiency of the communication system disclosed in Dent and to implement data dependent billing rather than time dependent billing. The examiner has therefore argued that the skilled person would be motivated to combine the teachings of Dent with the teachings of Tran

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relating to packet switched data channels. However, one of ordinary skill in the art would not transfer the teachings of Dent regarding full and half rate circuit switched channels to the packet switched channels disclosed in Tran. One of ordinary skill in the art knows that channels are assigned differently to packet switched and circuit switched connections. For example, a circuit switched connection is typically assigned one or more physical channels and occupies this channel(s) for the duration of a connection whereas a packet switched connection is generally assigned one or more physical channels, which it shares with other packet switched connections. With circuit switched channels, one of ordinary skill in the art would see a direct link between using half rate channels and increased spectral efficiency. Using half rate channels doubles the number of channels available for a given transmission bandwidth and, because each channel is assigned to a single circuit switched connection, this means that potentially twice as many circuit switched connections may be supported at any one time. However, the applied references do not suggest any direct link between channel rate and overall spectral efficiency for packet switched connections, because more than one packet switched connection may be assigned to any particular data channel. In other words, decreasing the data rate of a channel for packet switched connections would simply reduce the number of packet switched connections assigned to that particular channel rather than increasing spectral efficiency. Therefore, knowing the difference between channel allocation for packet switched connections and for circuit switched connections, one of ordinary skill in the art has no reason to suppose that combining the teaching in Dent regarding half rate speech channels to channels for packet switched connections (as suggested in Tran) would result in an increased spectral efficiency. Therefore, the combination of Dent and Tran does not teach or suggest half rate data channels for packet switched communications, as claimed in claims 43 and 75.

Furthermore, even if the teachings of Dent and Tran were combined, the resulting combination would still not include all of the features of claims 43 and 75 because neither of these documents discloses a combination of half rate data channels for circuit switched and packet switched communications as recited in claims 43 and 75. Dent discloses full and part rate channels for circuit switched communications. However, Dent does not consider that the expected efficiency gains may not be fully realized because of a mismatch in the number of circuit switched connections requesting a half rate channel at any one time. Tran similarly does not recognize or address this problem. Since Tran does not disclose part rate channels for packet switched communications, even if the skilled person were aware of this problem, Tran would not suggest all of the features recited in

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claims 43 and 75. Therefore, neither Dent nor Tran contains any suggestion that would prompt one of ordinary skill in the art to disregard the differences between circuit switched and packet switched connections (as described above) and implement a communication system having modes of operation in which a combination of full rate and part rate channels are allocated to circuit switched and packet switched communications as recited in the claims 43.

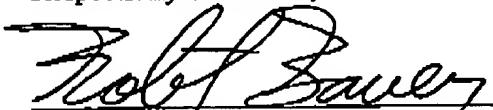
Claim 96

Independent claim 96 defines a communication system having a first mode of operation in which there is a full rate data channel for packet switched communications and a second mode of operation in which there are two half rate channels for packet switched communications. As indicated above, Dent is concerned only with circuit switched communications and Tran does not suggest a mode of operation in which there are two half rate data channels for packet switched communications. Therefore, one of ordinary skill in the art would not find it obvious to transfer the teachings of part rate data channels for circuit switched communications to the packet switched communications disclosed in Tran.

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The Commissioner is hereby authorized to charge amount required and any other deficiency, or to credit any overpayment, to the undersigned attorney's Deposit Account No. 10-0100 (Dkt. No. NOKIA.4019US).

Respectfully Submitted,



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Date: October 18, 2006